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DEPARTMENT OF AGRICULTURE

Animal and Plant Health Inspection Service

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ANIMAL WELFARE ACT

Proposed Standards and Regulations for Humane Handling, Care, Treatment, and Transportation of Marine Mammals

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[9 CFR Parts 1, 3]

ANIMAL WELFARE ACT

Proposed Standards and Regulations for the Humane Handling, Care, Treatment, and Transportation of Marine Mammals

AGENCY: Animal and Plant Health Inspection Service (USDA).

ACTION: Proposed rule.

SUMMARY: This document proposes regulations and standards under the Animal Welfare Act to remove marine mammals from the list of exempt species of warmblooded animals and to bring them under the jurisdiction and protection of the Animal Welfare Act. The Marine Mammal Commission has recommended that the Secretary of Agriculture adopt certain standards under the Animal Welfare Act to govern the humane handling, care, treatment, and transportation of marine mammals. This Department has evaluated the recommendations and data supplied in support thereof and has used such recommendations and data as a basis for proposing the following amendments to the regulations and standards under the Animal Welfare Act to govern the humane handling, care, treatment, and transportation of marine mammals.

DATE: Comments on or before October 18, 1977.

ADDRESSES: Comments to Deputy Administrator, USDA, APHIS, VS, Room 703, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782. Comments available for inspection at the above address during regular hours of business (8 a.m. to 4:30 p.m. Monday through Friday, except holidays) in a manner convenient to the public business (7 CFR 1.27(b)).

FOR FURTHER INFORMATION CONTACT:

Dr. Dale F. Schwindaman, Senior Staff Veterinarian, Animal Care Staff, Veterinary Services, Animal and Plant Health Inspection Service, United States Department of Agriculture, Room 703, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, telephone number (301) 436-8271.

SUPPLEMENTARY INFORMATION: Notice is hereby given in accordance with the administrative provisions in 5 U.S.C. 553, that, pursuant to the provisions of the Animal Welfare Act (7 U.S.C. 2131 et seq.), the Department of Agriculture is proposing (1) to amend the regulations under the Act (9 CFR 1.1) to revise the definitions for "animal" to include marine mammals, for "primary enclosure" to add the term "pool", and to add a new definition for "minimum horizontal dimension"; and (2) to provide new standards (9 CFR 3.1 et seq.) regarding the humane handling, care, treatment, and transportation of marine mammals.

The Animal Welfare Act requires the Secretary to promulgate standards for the humane handling, care, treatment, and transportation of any live or dead dog, cat, monkey (nonhuman primate mammal), guinea pig, hamster, rabbit, or such other warmblooded animals as the Secretary may determine are being used or intended for use, for research, testing, experimentation, or for exhibition purposes or for use as a pet.

Section 1(b) of the Animal Welfare Act (7 U.S.C. 2131) contains the following Congressional statement of policy;

> The Congress finds that animals and activities which are regulated under this Act are either in interstate or foreign commerce or substantially affect such commerce or the free flow thereof, and that regulation of animals and activities as provided in this Act is necessary to prevent and eliminate burdens upon such commerce and to effectively regulate such commerce, in order—
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> (1) To insure that animals intended for use in research facilities or for exhibition purposes or for use as pets are provided humane care and treatment;
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> (2) To assure the humane treatment of animals during transportation in commerce; and
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> (3) To protect the owners of animals from the theft of their animals by preventing the sale or use of animals which have been stolen.
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> The Congress further finds that it is essential to regulate, as provided in this Act, the transportation, purchase, sale, housing, care, handling, and treatment of animals by carriers or by persons or organizations engaged in using them for research or experimental purposes or for exhibition purposes or holding them for sale as pets or for any such purpose or use.

Under provisions of the Marine Mammal Protection Act of 1972 (Pub. L. 92-522) the administrative responsibility for regulating marine mammals in the wild was given by Congress to the Departments of Commerce and Interior. Those Departments prescribe the regulations that apply to free ranging marine mammals found in the wild, but the authority to promulgate regulations and to set standards for the humane handling, care, treatment, and transportation of captive marine mammals by dealers, research facilities, exhibitors and operators of auction sales was given to the Secretary of Agriculture by the 1970 Amendments to the Animal Welfare Act (Pub. L. 91-579). Such authority of the Secretary was extended to cover carriers and intermediate handlers by the Animal Welfare Act Amendments of 1976 (Pub. L. 94-279). The Marine Mammal Commission, created by the Marine Mammal Protection Act of 1972, was given the responsibility to study and recommend to the Secretaries of Commerce and the Interior and to other Federal officials, such steps as it deems necessary or desirable for the protection and conservation of marine mammals. The Marine Mammal Commission recommended that the Secretary of Agriculture adopt certain standards for the humane handling, care, treatment, and transportation of marine mammals under the Animal Welfare Act. Such recommendations and supporting technical data have been used as the basis for proposing the following amendments to the regulations and standards under the Animal Welfare Act.

Although the Secretary of Agriculture was given authority under the Animal Welfare Act to promulgate standards for the humane handling, care, treatment, and transportation of warmblooded animals, aquatic or marine mammals were exempted by regulations due to a lack of sufficient information upon which to base minimum standards for marine mammals. Based on the recommendations of the Marine Mammal Commission and discussions with their committee of scientific advisors and other experts on marine mammals, the Secretary is now proposing that marine mammals be covered by the Animal Welfare Act and proposes certain regulations and standards to govern their humane handling, care, treatment, and transportation in commerce.

The proposed standards are intended to assure the humane handling, care, treatment, and transportation of marine mammals which are bought, held, sold, or transported in commerce, for purposes of research, testing, experimentation, exhibition or for use as pets. This should enhance their health and increase their life-span, thereby reducing the need to capture additional marine mammals from the wild population. The proposed standards apply to many orders and species of marine mammals which have significant differences with respect to their biological and behavioral requirements. In all cases, the goal of the proposed standards is to provide each individual marine mammal with at least minimum acceptable conditions consistent with its good health and well-being, in reference to its physical requirements and behavioral needs.

The Animal Welfare Act directs the Secretary of Agriculture to promulgate minimum standards governing the humane handling, care, treatment, and transportation of warmblooded animals covered by the Act. Such standards include requirements with respect to handling, housing, feeding, watering, sanitation, ventilation, transportation, shelter from extremes of weather and temperature, adequate veterinary care, and separation by species.

The standards relating to the humane handling, care, treatment, and transportation of animals currently covered by the Animal Welfare Act are contained in 9 CFR Part 3, Subparts A, B, C, D, and E. The individual subparts are oriented to similar kinds or classes of animals and have many sections which are equally applicable to the humane handling, care and treatment of all animals. It is proposed that subpart E of the standards be redesignated as Subpart F and be renumbered accordingly, and that a new Subpart E be added to the standards containing the minimum standards for marine mammals.

The proposed minimum standards for marine mammals take into consideration that this group of animals have much

greater environmental requirements than nonaquatic species of animals. The physical plant necessary to maintain marine mammals is, therefore, much greater than for other species of animals. Since marine mammals spend all or most of their time in the water, minimum standards are proposed for both the quantity and quality of the water which shall be available to them. In most instances, this requires pumps for circulating the water, water filtration systems, and special equipment for monitoring and controlling the chemical content of the water.

It appears that there are certain general requirements that must be provided to meet the basic needs of both the marine mammals and the viewing public. Therefore, it is proposed that the facility should be constructed of such materials and be of such strength to safely contain the various species of marine mammals involved. It is also proposed that surfaces of the primary enclosure pool, ramps for entering or leaving the pool, resting areas and any other surfaces immediately surrounding the primary enclosure pool should be constructed from materials which provide a nonporous, waterproof finish, free of cracks or imperfect junctures. This proposed standard is to allow for thorough cleaning of the primary enclosure, with no cracks or crevices that would allow any bacterial buildup that could be a health hazard to the marine mammals contained therein.

The facilities must be safe not only for the marine mammals, but also for person attending to them, and to the viewing public. Therefore, it is proposed that the housing facilities should be structurally sound and should be maintained in good repair to protect the marine mammals from injury, to contain the marine mammals, and to restrict the entrance of other animals.

Captive marine mamals should be provided protection from public harassment, potential communicable human pathogens and possible ingestion of foreign bodies which may be intentionally or accidentally introduced into the primary enclosure. Therefore, it is proposed that, in the absence of effective physical barriers to such hazards (fences, walls, glass partitions, distance), constant supervision of persons who are or may come in contact with the marine mammals should be maintained.

A reliable source of water and power must be available. Therefore, it is proposed that auxiliary sources of water and power must be available in those instances where failure of the primary source of water or power may occur and the marine mammals' good health and well-being are dependent upon a continuous source of water or power to maintain the quality or exchange of water or air.

Proper drainage must be provided in order to maintain cleanliness and sanitary conditions. It is proposed that such drainage, especially if it is contaminated with animal and food wastes, must be disposed of in a manner consistent with all applicable local, State, and Federal laws.

It is proposed that food for marine mammals be stored in designated areas and, if it is subject to deteriorization at warm temperatures, it shall be kept under proper refrigeration to maintain its palatability and nutritive value. It is proposed that food for marine mammals not be stored with other materials of any kind which might contaminate the food with substances harmful to marine mammals or which might otherwise affect the wholesomeness of the food. It is also proposed that non-food storage areas must also be designated or located so as not to pose a threat of contamination to food storage, food preparation, or other food handling areas.

Proper waste disposal is essential in maintaining the cleanliness and sanitary conditions of a facility housing marine mammals and directly affects the good health and well-being of such captive marine mammals. It is proposed that food and animal wastes, as well as dead animals, trash and debris, must be disposed of in a suitable manner to comply with environmental and public health standards. It is proposed that washrooms and bathroom facilities be provided for employees so that they can maintain cleanliness and good personal hygiene so as not to be a source of contagion to the marine mammals.

Maintaining appropriate ambient air and water temperatures is vital to the good health and well-being of marine mammals. Therefore, it is proposed that indoor facilities for marine mammals be equipped to control the ambient air and water temperature in which the marine mammals are housed. It is proposed that the air temperature in an indoor housing facility for marine mammals not be allowed to fall below 7.2°C. (45°F.) in order to prevent freezing of the water in the pool or in the filtration and circulating systems as well as providing an environment that would not hamper or impede employees in caring for such marine mammals.

While certain marine mammals can tolerate air and water temperatures in excess of 30°C. (85°F.) it is not in the best interests of their good health and well-being to so house them, especially if they have not been so acclimated. Therefore, it is proposed that the ambient air and water temperatures in an indoor housing facility for marine mammals not be allowed to exceed 30°C. (85°F.) It is also proposed that the water temperature in the pool of water should approximate those found in the subject marine mammals' natural habitat or other temperatures to which it has been acclimated and which are compatible with the good health and well-being of the subject marine mammal. However, such water temperatures shall not be allowed to fall below 1.7°C. (35°F.) in order to prevent freezing of the water in the pool or in the filtration and circulating systems as well.

Marine mammals are air breathing animals and ventilation is very important to assure that they are provided adequate fresh air for their respiratory needs in both quantity and quality. Therefore, it is proposed that a minimum air space of 2.44 meters (8 feet) be maintained over all pools of water and that ventilation of indoor housing facilities must be adequate to provide a flow of fresh air for the marine mammals. Any less air space above the pool would not seem to be adequate to allow sufficient space for normal servicing of the pool and would tend to concentrate volatile chemicals and odors that may be detrimental to the marine mammals housed therein.

It is proposed that indoor facilities for marine mammals must have sufficient light through natural or artificial means so that animal caretakers can observe the marine mammals both in and out of the primary enclosure pool of water to determine their general health and condition and so that they can observe and maintain good sanitary conditions. Lighting also appears necessary to simulate the approximate lighting conditions in the natural environment, allowing certain periods of darkness and daylight.

Marine mammals come from a great variety of climatic conditions, from equatorial waters to the polar ice caps. There is also a great temperature range of climatic conditions within the United States. Outdoor facilities are completely dependent upon the local environmental conditions. Therefore, it is proposed that captive marine mammals housed in outdoor facilities must be able to adapt to the variations of climatic conditions which exist in that geographical area during the period they are so housed. If the local climatic conditions of the outdoor facility vary from the conditions in which they were previously housed, the marine mammals must be acclimated to their new environment before being placed in such outdoor housing facilities.

It is proposed that marine mammals housed in outdoor facilities have shaded areas in their primary enclosure at all times to provide them with shelter from excessive sunlight which may cause overheating or sunburn. It is also proposed that shelter be available to protect marine mammals from inclement weather, when such inclement weather is likely to cause discomfort to such animals.

It is proposed that the pools of water in outdoor facilities shall be kept free of ice. Iced over pools could deny marine mammals access to such pool for both excercise and drinking or obstruct their free access to sufficient air for normal breathing.

Space requirements for the wide variety of marine mammals is quite variable. The Marine Mammal Commission has furnished this Department with information concerning the research it has conducted into the space requirements for marine mammals. Such information appears to be reasonable and was used as the basis for the proposed minimum standards on space requirements for marine mammals. The proposed minimum space requirements appear to be adequate and necessary to assure the

health and well-being of marine mammals based on the information which the Department now has available to it.

Since cetaceans (e.g. whales, porpoises, and dolphins) spend all of their time in the water, it is proposed that their primary enclosure need consist of only a pool of water. It is proposed that cetaceans must be provided a pool of water with a minimum horizontal dimension (MHD) of two times the length of the longest cetacean contained therein as measured from the tip of its nose to the tip of its fluke.

It is proposed that "minimum horizontal dimension" means the diameter of a circular pool or in the case of a square, rectangular, oblong or other shape pool, the diameter of the largest circle that can be inserted within the confines of such a pool of water. The MHD for each marine mammal is calculated to give it adequate freedom of movement in the pool horizontally. Regardless of the number of cetaceans housed in a primary enclosure pool, the MHD cannot be less than the MHD required for the longest cetacean contained therein.

The minimum horizontal dimension (MHD) of the pool, which is proposed as two times the length of the longest cetacean contained therein has been recommended as giving adequate space to the cetacean for freedom of horizontal movement, which would allow the cetacean to turn about and swim without touching any limiting lateral structure. There would appear to be a sufficient volume of water in such a pool to allow two cetaceans, of equal length, in the pool to have adequate freedom of movement due to the large amount of communal space available to each.

The minimum depth of a primary enclosure pool for cetaceans should be at least one-half the length of the longest cetacean housed therein as measured from the tip of its nose to the tip of its fluke. The body height of cetaceans even with a dorsal fin completely extended, if present, is less than one-half the length of the cetacean. Therefore, computing proper depth, using this criteria, would allow the cetacean to be completely covered with water and still allow for vertical freedom of movement. It is therefore proposed that the minimum depth of a pool housing cetaceans shall not be less than 1.52 meters (5 feet) or one-half the length of the longest cetacean housed therein, whichever is greater. Regardless of the total number of cetaceans to be housed in the pool, the minimum depth cannot be less than the minimum determined for the longest cetacean housed therein. Such a pool of water has a sufficient volume of water for one or two cetaceans.

When more than two cetaceans are housed in a primary enclosure pool, the volume of the pool must be increased to accommodate the additional cetaceans. It is proposed that the required increase in the volume be based on the actual length of the cetacean computed in the same manner as for the first two cetaceans. This method would appear to give volume sufficient for two cetaceans, therefore, the computed volume needs to be divided by two to give the volume required for each additional cetacean. It is proposed that for each additional cetacean added to the pool, after the first two, that the minimum volume of water for the pool be increased by squaring the length of each such additional cetacean multiplied by π (3.14) and the sum thereof multiplied by the minimum depth required for such cetacean and divide the results by two. A table has been prepared (Table I) and included in the standards to give the exact volume of water which would be required for each cetacean to be added to the primary enclosure pool, more than two, based on the actual length of each such additional cetacean.

Sirenians (e.g. the dugong and the manatee) are slow moving, sluggish marine mammals that spend all of their time in the water. Therefore, it is proposed that their primary enclosure need only consist of a pool of water. Space requirements for sirenians would appear to be similar to the needs of cetaceans, and, therefore, it is proposed that their pool size be at least two times the length of the longest sirenians, as measured from the tip of its nose to the tip of its fluke, as the MHD, and that the minimum depth shall be 1.52 meters (5 feet) or one-half the length of the longest sirenian contained therein, whichever is greater. This size pool appears to be sufficient to house two sirenians. When more than two sirenians are housed in the same pool, the minimum volume of water in the pool must be increased to accommodate each such additional sirenian, more than two, in the pool must be known to determine the minimum required additional volume of water which would be computed in the same manner as previously described for cetaceans.

The space requirements for a primary enclosure housing pinnipeds (e.g. seals, sea lions, and walruses) should include a dry area for resting and social activities and a pool of water, as they spend much of their time out of the water. The space allowed for each pinniped for freedom of movement, mating, postural adjustments and sleep would be determined by their size and by the number of pinnipeds sharing the same enclosure. The size of the pinniped is important and the largest pinniped should have the greatest allotment of space. One pinniped appears to require a minimum dry area at least 50 percent larger than its own length squared. As more pinnipeds are added to the primary enclosure less space should be allotted per animal because of the greater amount of communal space available. This would be accomplished by reducing the multiplier of 50 percent for the first animal by 10 percentage points until more than five animals are housed together. However, no pinniped would ever be given less space of dry surface area for resting and social activity than its own length squared.

It is therefore proposed, that to compute the minimum dry space requirements for pinnipeds, the length of each pinniped housed in the primary enclosure shall be ascertained by measuring them from the tip of their nose to the tip of their hind flipper in a horizontal or extended position. The pinniped should then be arranged in descending order from the largest pinniped which would be animal number one, to the smallest pinniped at the end. It is proposed that the largest pinniped be given a minimum dry space of its own length squared, plus fifty percent, or its length squared times 1.5. The second largest pinniped would be given a minimum dry space of its own length squared, plus forty percent, or its length squared times 1.4. The third largest pinniped would be given a minimum dry space of its own length, plus thirty percent, or its own length squared times 1.3. This would be continued to the fifth largest pinniped which would receive a minimum dry space equal to its own length squared, plus ten percent, or its own length squared times 1.1. For all other pinnipeds (more than five) added to the primary enclosure, the space would be determined by giving each such pinniped a minimum dry space equal to its own length squared. The sum of such figures for each pinniped in a primary enclosure would be the minimum dry resting and social activity area required for such pinniped.

Pinnipeds appear to need a pool of water whose MHD is twice the length of the longest pinniped contained therein. Such a pool of water would appear to have sufficient surface area for two pinnipeds. However, additional surface area would be required when more than two pinnipeds are housed in the same primary enclosure. Pinnipeds spend one-half or less of their time in the water, and therefore, rarely would all pinnipeds in a primary enclosure be in the pool of water at one time. It is proposed that when more than two pinnipeds are housed in the same primary enclosure that the minimum surface area of the pool be two-thirds of the dry resting area required for such pinnipeds. It is further proposed that the minimum depth of the pool shall not be less than 1.52 meters (5 feet) or one-half the length of the longest pinniped contained therein, whichever is greater. The MHD of the pool shall not be less than two times the length of the longest pinniped contained therein.

The primary enclosure for polar bears appears to need open space, a den, and a pool of water. While polar bears spend much of their time out of water, the pool appears especially necessary in hot or temperate climates for polar bears to cool themselves. A den appears necessary to provide shade, privacy, and a means of escaping inclement weather. A den is also necessary to a pregnant female, which should have extreme privacy before parturition and for several months after the birth of young. It is proposed that a shaded area, other than the den, be provided for other polar bears in the same primary enclosure with a pregnant female. Polar bears are much more mobile on land than other marine

mammals. They are less gregarious than other marine mammals especially females in season, and therefore, require more dry space for adequate freedom of movement and social activities. Objective data concerning the minimum space requirements for polar bears is not available at this time to the Department's knowledge. However, it is the belief of experts on marine mammals, and it has been recommended by the Marine Mammal Commission that the following minimum space requirements be proposed. This Department has no information that would indicate that such proposals are not reasonable, necessary, appropriate or adequate for polar bears, and, therefore, has decided to issue such proposed minimum space requirements for polar bears as recommended by the Marine Mammal Commission.

It is proposed that a minimum dry resting area of 37.16 square meters (400 square feet) be provided for one or two polar bears and an additional 3.72 square meters (40 square feet) for each additional polar bear contained in a primary enclosure. It is also proposed that the den shall be at least 1.83 meters (6 feet) in width, depth and height, which would allow sufficient space for one polar bear to make normal postural adjustments. A separate den would be required for each adult female as a private enclosure. It is also proposed that sufficient shade, other than the den, be provided for all polar bears contained in the same primary enclosure. It is proposed that the pool in any primary enclosure for polar bears be a minimum of 2.44 meters (8 feet) be 3.66 meters (12 feet) and at least 1.52 meters (5 feet) deep.

Sea otters appear to need a dry resting area and a pool of water in their primary enclosures. It is necessary for sea otters to have a pool of water to keep their hair coat wet at all times for proper grooming and for insulation of the body, as they spend most of their time in the water. Sea otters cannot regulate their body temperature properly if the hair coat is allowed to dry. Sea otters will usually die of exposure or hypothermia if the hair coat becomes soiled or is allowed to dry. Objective data concerning the minimum space requirements for sea otters is not available at this time to the Department's knowledge. However, it is the belief of experts on marine mammals, and it has been recommended by the Marine Mammal Commission that the following minimum space requirements be proposed. This Department has no information that would indicate that such proposals are not reasonable, necessary, appropriate or adequate for sea otters and, therefore, has decided to issue such proposed minimum space requirements for sea otters as recommended by the Marine Mammal Commission.

It is proposed that the minimum horizontal dimensions (MHD) of a pool of water for sea otters be at least twice the length of the longest sea otter contained therein, as measured from the tip of its nose to the tip of its tail. It is also proposed that the minimum depth of the pool shall not be less than 0.91 meters (3 feet). The volume of water in such a pool would appear to be sufficient for one or two sea otters. It is proposed that the minimum dry resting area for one or two sea otters be equal to the minimum surface area of the pool required for such sea otters.

When more than two sea otters are housed in the same primary enclosure, both the dry resting area and the pool volume must be increased, based on the actual length of the sea otters, more than two, contained therein. It is therefore proposed that such additional space be computed by measuring the length of the sea otters (more than the two longest) from the tips of their noses to the tips of their tails. When the length of the sea otters has been determined, the surface area of the pool is calculated and that figure multiplied by 0.91 meters (3 feet), divided by two; and the result is the additional minimum volume of water the pool must contain for such sea otters. It is proposed that the minimum dry resting area for a primary enclosure housing more than two sea otters be increased by one-half the square of the length of each such additional sea otter times π (3.14). To assist in calculating the additional minimum dry resting area and the increased minimum water volume for each sea otter, more than two in the primary enclosure, Table II has been prepared based upon the length of such additional sea otters.

Most facilities housing marine mammals are not located where they can receive fresh food daily for their marine mammals. Therefore, these facilties are dependent upon frozen food supplies to feed their animals. Therefore, it is proposed that the storage, thawing, handling, and feeding of such frozen foodstuff be accomplished in a manner which will minimize bacterial and chemical contamination and maintain the wholesomeness, nutritive value and palatability of the food. Thawing food fish is especially difficult, because if it is not done properly, the center of the fish can still be frozen while enzymatic and bacterial decomposition has started on the surface and peripheral parts of the fish. Therefore, it is proposed that the thawed fish, or other foodstuffs, must be kept iced or refrigerated until fed to the marine mammals and that thawed foodstuffs shall be fed to such marine mammals within 18 hours after being removed from the freezer.

Water quality is extremely important for marine mammals and at least minimum water quality standards need to be maintained for the good health and well-being of the animals. Marine mammals are air breathing mammals and it is not necessary for the water to contain sufficient oxygen for respiratory functions as there is no gaseous exchange between marine mammals and the water. Therefore, it is proposed that the purity of the water be assured by keeping the coliform bacteria count below 1000 MPN (most probable number) per 100 ml. of water and that filtration systems be used to filter out particulate material. Cetaceans, sirenians, and to some degree pinnipeds, defecate in the water of their pool and the filtration system must be able to circulate the water through the filters to keep the water free of excrement, nitrogenous wastes, as well as dirt or other debris that gains entry to the pool. It is proposed that the filtration of recirculated water, or the addition of new water, be at a rate equal to the volume of the pool of water every 4 hours. Salinity of the water is essential for some marine mammals and desirable for others; however, many do very well in fresh water. Therefore, it is proposed that when salinized water is used, it be within the range of salinity of normal sea water. It is also proposed that the pH of the water be monitored to assure that it approximates the pH of normal sea water. Chemicals that are added to the pool to control bacteria or algae must not be so strong as to adversely affect the quality of the water to the point that it might be harmful or cause discomfort to the marine mammals.

Sanitation standards are proposed to assure that the facility which houses marine mammals is maintained in a clean and sanitary condition so as not to pose a health hazard to the marine mammals contained therein, or to the employees who work at the facility, or to the viewing public.

It is proposed that the primary enclosure be cleaned daily to keep animal and food wastes from accumulating in both the pool and any dry areas surrounding the pool. It is proposed that the water be circulated through the pool so that fecal material, as well as any trash or debris that enters the pool is filtered out or in some manner not allowed to reenter the pool. It is also proposed that the wall and bottom surfaces of pools of water be cleaned as necessary to remove accumulations of algae in order to maintain the required water quality.

It is proposed that food storage, food handling, and food preparation areas must be routinely cleaned and sanitized to prevent any bacterial buildup, and that utensils and other equipment involved in any way with the feeding of marine mammals must also be routinely cleaned and sanitized. This is essential to ensure the wholesomeness of the foodstuffs fed to the marine mammals and to their continued good health.

Housekeeping and general practices used in maintaining buildings and grounds at any facility are very important to the good health and well-being of marine mammals housed therein. It is proposed that buildings and grounds must be clean and in good repair and that loose objects lying about, or objects with sharp points or edges must be eliminated to prevent injury or trauma to the marine mammals.

Pest control must be done safely and efficiently. Avian and mammalian pests as well as flying insects must be controlled throughout the facility. A program to keep ectoparasites from infesting the marine mammals is also necessary. Therefore, it is proposed that when insecticides, rodenticides, or other chemicals are used to control pests, it shall be done with the attending veterinarian's knowledge and permission, as the choice

of the therapeutic agent used in case of accidental poisoning of any marine mammal would depend on his knowledge of the type of chemical involved.

It is proposed that a sufficient number of employees be present daily at the facility to adequately take care of the marine mammals and to do other supportive functions necessary to maintain the animals in good health and to provide for their needs. It is proposed that employees who actually are responsible for the care and feeding of the marine mammals must have a background in marine mammal care or be supervised by a person who has had training in marine mammal husbandry and care. It is proposed that marine mammals being trained for performing acts, shall be trained by experienced trainers and that physical punishment or abuse to the marine mammals shall not be allowed to occur during the training process.

It is proposed that marine mammals that are not compatible must not be housed in the same primary enclosure. Not only incompatible species shall be separated, but also animals of the same species must be separated if the good health and well-being of any animal contained therein is in jeopardy. It is also proposed that marine mammals that are incompatible shall not be placed in adjacent primary enclosures if any resulting frustration, fear, or anxiety will affect the good health of any of the marine mammals involved.

It is proposed that each facility which houses marine mammals must have a complete program of veterinary care under the direction of a veterinarian who is a graduate of an approved school of veterinary medicine. This program can be a written or an oral one, but both the facility management and the veterinarian must be knowledgable of the preventive medicine procedures adopted and how routine and emergency procedures will be conducted. It is proposed that the marine mammals must be observed daily by an animal caretaker knowledgeable about marine mammals and that any sick, diseased, stressed, lame, or injured marine mammal, or any marine mammal exhibiting any other deviation from its normal state of good health, be promptly reported to the facility's veterinarian for his professional evaluation.

It is proposed that marine mammals used in research, tests, or experiments shall be afforded the same protection in the use of anesthetics, analgesics, and tranquilizing drugs as other animals covered by the Animal Welfare Act.

It is proposed that newly acquired marine mammals which are to be added to the existing collection, shall go through a period of quarantine to determine their health status before they can be added to the collection. If an infectious or communicable disease condition is observed in a new marine mammal, the condition must be corrected before such new marine mammal is introduced to the collection so as not to expose the other marine mammals to any such condition or disease. It is proposed that any primary enclosure that has contained a marine mammal with an infectious or contagious disease must be cleaned and sanitized, as directed by the facility's veterinarian, before other marine mammals can again be housed in that primary enclosure, in order to prevent the spread of any such disease.

Handling marine mammals is difficult because of the huge size of some of these animals. The handling of marine mammals, especially out of water, their natural environment, can cause overheating and discomfort to the animal and may cause emotional stress or physical harm. Therefore, it is proposed that isolation and treatment and handling devices of a proper design for marine mammals so as to minimize overheating and discomfort to the animal and to prevent injury to the marine mammal or its handlers. As these animals are generally large and powerful, it is proposed that care shall also be taken to protect the attendants and handlers from injury by the marine mammals.

It is proposed that the handling and displaying of performing marine mammals be consistent with their good health and not cause them a discomfort. It is proposed that sufficient distance be allowed, or barriers placed between, the marine mammals and the viewing public to assure the safety of both the marine mammals and the viewing public. It is also proposed that a period of rest be provided performing marine mammals between performances at least equal to the time required for one performance.

Section 13 of the Animal Welfare Act (7 U.S.C. 2143) requires the Secretary to promulgate standards to govern the humane handling, care, treatment, and transportation of animals by dealers, research facilities, and exhibitors. Provisions of the Animal Welfare Act Amendments of 1976, enacted on April 22, 1976 (Pub. L. 94-279), also require the Secretary of Agriculture to promulgate standards to govern the transportation in commerce, and the handling, care, and treatment in connection therewith, by intermediate handlers and carriers of animals consigned by any dealer, research facility, exhibitor, operator of an auction sale, or other person, or any department, agency, or instrumentality of the United States or of any State or local government, for transportation in commerce. The Secretary was also given authority to promulgate such rules and regulations as he determines necessary to assure humane treatment of animals in the course of their transportation in commerce, including requirements such as those wth respect to containers feed, water, rest, ventilation, temperature, and handling.

The proposed transportation standards contained herein have been written to provide marine mammals with the same general protection and care as that proposed for all other species of animals covered by the Animal Welfare Act, and published in the FEDERAL REGISTER on March 18, 1977, et 42 FR 15210.

Some marine mammals, however, do have different transportation requirements than most other animals. The size of some marine mammals, such as killer whales, require very special handling and care. These animals are out of their natural environmental element while being transported; therefore, an artificial environment must be created that will sustain life and not cause the marine mammal undue injury or discomfort. This is true primarily with marine mammals in the order cetaceans and sirenia. Pinnipeds and marine carnivores (polar bears and sea otters) would not appear to require quite such elaborate transporting methods, and, therefore, their proposed transportation standards are more in line with the proposed transportation standards for other warmblooded animals covered by the Animal Welfare Act.

Most shipments or marine mammals will be consigned to private transporting concerns that specialize in transporting marine mammals. These business concerns should have the experience and the equipment to assure the safe delivery of the marine mammals to their destinations. It appears that very few marine mammals would be transported by the normal common carrier or intermediate handler. However, the proposed transportation standards for marine mammals would apply to all dealers, exhibitors, research facilities, carriers, and intermediate handlers.

Requirements for primary enclosures for transportation of the different orders of marine mammals are divided into two categories in this proposal. Pinnipeds and the marine carnivores (polar bears and sea otters) are in one category, and it is proposed that they can be shipped in crates similar to those that are used in transporting other zoo animals. It is important that these animals be given sufficient space in the primary enclosure used for transportation to assure that they have room to move or lie down in normal postural positions without impeding their appendages. The second category includes the cetaceans and sirenians, and it is proposed that they be transported in devices which are designed to support their body weight and provide easy accessibility to the animals for employees to administer to their needs in transit. Without the buoyancy of water on their bodies, these marine mammals move with great difficulty. Therefore, it is proposed that cetaceans and sirenians be transported in well padded straps, slings, harnesses, or other devices for body support that are designed to protect the animal while in transit and to allow attendants to administer to their needs. The proposed standards for transporting cetaceans and sirenians take into account the need for these animals to be supported and protected from injury during transportation.

Marine mammals are generally not fed while in transit and, in most cases, it is an accepted practice to actually fast the animals for a short period prior to

shipment. The sea otter is an exception to this general rule in that they should have food available to them while in transit.

The water intake of marine mammals generally needs to be sufficient prior to starting their transportation to allow them to reach their destination without requiring water while in transit. Every precaution, however, should be taken to prevent dehydration of the animals while in transit and they should be closely observed for evidence of dehydration. Therefore, it is proposed that marine mammals be watered within 4 hours prior to transportation and that water must be offered to the marine mammals during transportation whenever indicated by dehydration. If it is not practical to water the animals sufficiently while in transit, and dehydration appears to be excessive, it is proposed that the transportation must be ended, before the good health and well-being of the marine mammal is jeopardized. In such instances, water must be provided the marine mammal to satisfy its needs.

The transportation of marine mammals can be very exacting and only knowledgable people can assess the physical needs of the animals and properly administer the necessary intransit care. Therefore, it is proposed that an attendant be required to accompany shipments of cetaceans, sirenians, walruses, and sea otters, because of the problems associated with their size, or required special handling, feeding, and watering requirements. The skin of cetaceans and sirenians needs to be kept moist in transit or protected by some substance such as lanolin to keep the skin from drying. It is important that the pectoral fins of both cetaceans and sirenians have full mobility as these animals cannot breath properly if pectoral fins are not free to move about. Positional adjustments must be made for cetaceans and sirenians transported in straps, slings, harnesses, or other body supportive devices to prevent pressure necrosis of the skin over bony prominences or other points where extreme pressure is concentrated from the weight of the animals. It is proposed that retaining straps, securing the cetacean or sirenian to the sling, harness or other device, shall be tight enough to restrain the marine mammal, but not so tight that they become irritating to the animal. Struggling and thrashing about should be minimized to prevent overheating of the marine mammal.

Sea otters must keep their hair coat wet for proper insulation and temperature control of their body. They will not groom their fur if it dries or becomes soiled with feces. It is proposed that a primary enclosure used to transport sea otters shall have a small pool of water contained therein for the animal to keep its fur wet or a spray of water be provided for such purposes. It is also proposed that a dry area be available in the primary enclosure used to transport a sea otter so the animal can get out of the pool or spray of water for resting or grooming purposes.

It is possible to encounter a wide variation of temperature ranges during transportation and the ambient temperature extremes need to be designated to prevent discomfort to the marine mammal or to be detrimental to its good health and well-being. Marine mammals are generally more susceptible to hot temperatures than they are to cool or cold temperatures. It is therefore proposed that the ambient temperature around the marine mammal during transportation shall not exceed 35° C. (95° F.) for a period of more than 45 minutes nor fall below 7.2° C. (45° F.) for a period of more than 45 minutes unless the person transporting the marine mammal knows that it is acclimated to such higher or lower temperatures. These temperatures appear to be in a range that all marine mammals can tolerate without undue discomfort or lasting harmful effects.

PART 1—DEFINITION OF TERMS

Accordingly, it is proposed that the regulations and standards (9 CFR 1.1 et seq.) be amended as follows:

§ 1.1 [Amended]

1. It is proposed that the second sentence in § 1.1(n) of the regulations (9 CFR 1.1(n)) be amended to delete the words "aquatic animals," following the word "birds" and before the word "rats".

2. It is proposed that § 1.1(cc) of the regulations (9 CFR 1.1(cc)) would be amended by inserting a comma after the word "compartment" and adding the word "pool" immediately thereafter and before the word "or".

3. It is proposed that a new definition for minimum horizontal dimension (MHD) be added to the end of § 1.1 of the regulations (9 CFR 1.1) as follows:

* * * * *

(mm) "Minimum horizontal dimension" (MHD) means the diameter of a circular pool of water, or in the case of a square, rectangular, oblong or other shape pool, the diameter of the largest circle that can be inserted within the confines of such a pool of water.

PART 3—STANDARDS

4. It is proposed that the Table of Contents in Part 3—STANDARDS of Title 9, Code of Federal Regulations, be amended by making present Subpart E of the Table of Contents, Subpart F, and renumbering §§ 3.11 to 3.114 thereof to §§ 3.125 through 3.138, respectively, and by adding a new Subpart E as follows:

Subpart E—Specifications for the Humane Handling, Care, Treatment, and Transportation of Marine Mammals

FACILITIES AND OPERATING STANDARDS

3.100 Facilities general.
3.101 Facilities, indoor.
3.102 Facilities, outdoor.
3.103 Space requirements.

ANIMAL HEALTH AND HUSBANDRY STANDARDS

3.104 Feeding.
3.105 Water quality.
3.106 Sanitation.
3.107 Employees.
3.108 Separation.
3.109 Veterinary care.
3.110 Handling.

TRANSPORTATION STANDARDS

3.111 Consignments to carriers and intermediate handlers.
3.112 Primary enclosures used to transport live animals.
3.113 Primary conveyances (motor vehicle, rail, air, and marine).
3.114 Food and water requirements.
3.115 Care in transit.
3.116 Terminal facilities.
3.117 Handling.
3.118 Ambient temperature.

5. It is proposed that present Subpart E of Part 3—STANDARDS (9 CFR Part 3, Subpart E) would be redesignated as Subpart F and §§ 3.100 to 3.114 thereof would be renumbered as §§ 3.125 through 3.138, respectively, and a new Subpart E would be added to read as follows:

Subpart E—Specifications for the Humane Handling, Care, Treatment, and Transportation of Marine Mammals

§ 3.100 Facilities, general.

(a) *Construction requirements.* (1) Housing facilities for marine mammals shall be structurally sound and shall be maintained in good repair, to protect the animals from injury, to contain the animals, and to restrict the entrance of other animals.

(2) All marine mammals shall be provided with reasonable protection from abuse and harassment by the viewing public by the use of a sufficient number of employees to supervise the viewing public, or physical barriers, such as fences, walls, glass partitions, or distance, or both.

(3) Any primary enclosure pool, including ramps for entering or leaving the pool, resting areas, and any other surfaces immediately surrounding the primary enclosure pool, shall be constructed of materials which provide a nonporous, waterproof finish, that is free of cracks or imperfect junctures.

(b) *Water and power supply.* Reliable and adequate sources of water and electric power shall be provided. Alternate emergency sources of adequate water and electric power shall be available in order to assure compliance with the standards in this subpart whenever failure of the primary adequate source of water or power supply may occur.

(c) *Drainage.* (1) Adequate drainage shall be provided for all primary enclosure pools and shall be located so as to rapidly eliminate all of the water contained in such pools when necessary for cleaning the pool or for other purposes. Drainage effluent from primary enclosure pools shall be disposed of in a manner that complies with all applicable Federal, State, and local pollution control laws.

(2) Drainage shall be provided for the primary enclosure and the area immediately surrounding the pool. Drains shall be located so as to rapidly eliminate excess water (except in pools). Drainage, except from ramps for entering or leaving the pool, shall be away from the pool towards the drains. Such drainage effiu-

ent shall be disposed of in a manner that complies with all applicable Federal, State, and local pollution control laws.

(d) *Storage.* Supplies of food shall be stored in facilities which adequately protect such supplies from deterioration, molding, or contamination by vermin. Refrigerators and freezers shall be provided for perishable food. No substances which are or may be toxic or harmful to marine mammals shall be stored or maintained in the marine mammal food storage or food preparation areas.

(e) *Waste disposal.* Provision shall be made for the removal and disposal of animal and food wastes, dead animals, trash, and debris. Disposal facilities shall be so provided and operated as to minimize vermin infestation, odors, and disease hazards. All waste disposal procedures must comply with all applicable Federal, State, and local laws pertaining to pollution control or protection of the environment.

(f) *Washroom facilities.* Facilities such as washrooms, basins, showers, or sinks, shall be provided to maintain cleanliness among the marine mammal caretakers.

§ 3.101 Facilities, indoors.

(a) *Ambient temperature.* (1) The air temperature in indoor facilities shall be sufficiently regulated by heating or cooling to protect the marine mammals from extremes of temperature, to provide for their good health and well-being and to prevent their discomfort. The ambient air temperature shall not be allowed to fall below 7.2° C. (45° F.) nor allowed to exceed 30° C. (85° F.). Rapid changes in air temperatures within such maximum and minimum temperatures shall be avoided.

(2) The water temperature in pools in primary enclosures housing marine mammals shall approximate the water temperature of such marine mammals' natural habitat or to temperature ranges to which they have been acclimated. Such temperature ranges must be compatible with the good health and well-being of the species involved.

(3) The water temperature in pools in primary enclosures housing marine mammals shall not be allowed to fall below a minimum temperature of 1.7° C. (35° F.) nor exceed a maximum temperature of 29.4° C. (85° F.). Rapid changes in water temperatures within such maximum and minimum temperatures shall be avoided.

(b) *Ventilation.* Indoor housing facilities shall be ventilated by natural or artificial means to provide a flow of fresh air for the marine mammals and to minimize the accumulation of chlorine fumes or other objectionable odors. A vertical air space of at least 2.44 meters (8 feet) shall be maintained in all primary enclosures housing marine mammals, including over their pools of water.

(c) *Lighting.* Indoor housing facilities for marine mammals shall have ample lighting, by natural or artificial means, or both, of good quality, distribution, and duration, as appropriate for the species involved, to permit adequate observation and cleaning of all parts of the primary enclosure including any den areas. Lighting of primary enclosures shall be designed to prevent overexposure of the marine mammals contained therein to excessive illumination.

§ 3.102 Facilities, outdoors.

(a) *Environmental temperatures.* Marine mammals shall not be housed in outdoor facilities unless the ambient air and water temperature ranges which they may encounter during the period they are so housed are compatible with the health and comfort of such marine mammal. A marine mammal shall not be introduced to an outdoor housing facility until it is acclimated to the ambient air and water temperature ranges which it will encounter therein. Water in pools in outdoor primary enclosures shall be kept free of ice.

(b) *Shelter from sunlight.* Sufficient shade, by natural or artificial means, shall be provided to allow all marine mammals kept outdoors to protect themselves from overheating or discomfort due to direct sunlight.

(c) *Shelter from inclement weather.* Natural or artificial shelter which is appropriate to the local climatic conditions for the species concerned, shall be provided for all marine mammals kept outdoors to afford them protection and to prevent discomfort to such animals due to inclement weather.

§ 3.103 Space requirements.

(a) *General.* Primary enclosures, including pools of water housing marine mammals, shall be constructed and maintained so as to provide sufficient space, both horizontally and vertically, to allow each marine mammal contained therein, to make normal postural and social adjustments with adequate freedom of movement, in or out of the water, or both, as the case may be.

(b) *Cetaceans.* (1) Primary enclosure housing cetaceans shall contain a pool of water and may consist entirely of the pool of water. The pool of water for cetaceans shall have a minimum horizontal dimension (MHD) of at least twice the length of the longest cetacean contained therein, as measured from the tip of its nose to the tip of its fluke. The minimum depth of the pool shall be at least one-half the length of the longest cetacean contained therein, or 1 52 meters (5 feet), whichever is greater. A pool of water for cetaceans meeting the MHD and minimum depth for the longest cetacean contained therein, as computed above, has a sufficient volume of water for two cetaceans. However, the minimum volume of water necessary for a pool of water containing more than two cetaceans shall be determined in the following manner:

(i) The length of all cetaceans contained in the same pool of water shall be ascertained, as measured from the tip of their noses to the tip of their flukes and listed in order from the largest to the smallest cetacean contained therein.

(ii) The minimum volume of water necessary for the largest two cetaceans shall be determined by squaring the length of the larger cetacean and multiplying that figure by π (3.14), and such result shall be multiplied by one-half of the length of the larger cetacean or 1.52 meters (5 feet), whichever is greater.

(iii) The additional minimum volume of water necessary for each additional cetacean, more than the two largest cetaceans, shall be one-half the sum of the square of the length of each such additional cetacean contained therein multiplied by π (3.14), and each such total shall be multiplied by one-half of the length of each such additional cetacean or 1.52 meters (5 feet), whichever is greater.

(2) The following formulas are to be used in determining the space requirements for cetaceans:

Minimum horizontal dimension (MHD) = 2× the length of the longest cetacean.

Minimum depth = ½ the length of the longest cetacean or 1.52 meters (5 feet), whichever is greater.

For 1 or 2 cetaceans: Minimum volume of water = square the length × π (3.14) × minimum depth

For each cetacean more than 2: Minimum volume of water = $\frac{\text{square the length}}{2} \times \pi\ (3.14) \times$ minimum depth

TABLE 1 [1]

Length of cetacean		MHD		Minimum required depth		Additional volume of water required per cetacean, over—	
Meters	Feet	Meters	Feet	Meters	Feet	$2m^3$	$2ft^3$
1.83	6	3.66	12	1.52	5	7.99	282.60
2.13	7	4.26	14	1.52	5	10.83	384.65
2.44	8	4.88	16	1.52	5	14.21	502.40
2.74	9	5.48	18	1.52	5	17.92	635.85
3.05	10	6.10	20	1.52	5	22.20	785.00
3.66	12	7.32	24	1.83	6	38.49	1,356.48
4.27	14	8.54	28	2.14	7	61.26	2,154.04
4.88	16	9.76	32	2.44	8	91.23	3,215.36
5.49	18	10.98	36	2.75	9	130.13	4,578.12
6.10	20	12.20	40	3.05	10	178.18	6,280.00
6.71	22	13.42	44	3.36	11	237.51	8,358.68
7.32	24	14.64	48	3.66	12	307.89	10,851.84
7.92	26	15.84	52	3.96	13	389.98	13,707.16

[1] All calculations are rounded off to the nearest hundreth. A conversion factor of 1 ft equals .3048 m is used in converting the length of cetaceans from feet to meters. Due to rounding of meter figures as to the length of the cetacean, the correlation of meters to feet in subsequent calculations of MHD and additional volume of water required per cetacean, over 2, may vary slightly from a strict feet to meters ratio.

(c) *Sirenians.* Primary enclosures housing sirenians shall contain a pool of water and may consist entirely of a pool of water. The minimum size requirements for such a pool of water for sirenians is calculated by using the same formulas as used for cetaceans in subsection (b) of this section, based on the length of such sirenians as measured from the tips of their noses to the tips of their flukes.

(d) *Pinnipeds.* (1) Primary enclosures housing pinnipeds shall contain a pool of

water, a dry resting or social activity area and a ramp for entering or leaving the pool. (2) The minimum size of the dry resting or social activity area of the primary enclosure for pinnipeds (exclusive of the pool of water and the ramp for entering or leaving the pool) shall be based on the length of each pinniped contained therein, as measured in a horizontal or extended position, from the tip of its nose to the tip of its hind flipper. The minimum size of the dry resting and social activity area shall be computed using the following method:

Measure all pinnipeds and arrange them by length in descending order from the longest pinniped to the shortest pinniped. Square the length of each pinniped. Multiply the length squared of the longest pinniped by 1.5, the second squared. Add the figures obtained for all pinnipeds in the primary enclosure to determine the minimum dry resting longest by 1.4, the third longest by 1.3, etc. The sixth pinniped and all others shall have space equal to their length and social activity area required for such pinnipeds.

1 pinniped (length×1.5)=total for resting and social activity area
2 pinniped (length×1.4)=total for resting and social activity area
3 pinniped (length×1.3)=total for resting and social activity area
4 pinniped (length×1.2)=total for resting and social activity area
5 pinniped (length×1.1)=total for resting and social activity area
Over 5 (length×1.0)=total for resting and social activity area

Sum total for minimum dry resting and social activity area

(3) The minimum surface area of the pool of water for pinnipeds (exclusive of the ramp area) shall be at least two-thirds of the minimum dry resting and social activity area required for the pinnipeds contained therein. The pool of water shall be at least 1.52 meters (5 feet) deep or one-half the length of the longest pinniped contained therein, whichever is greater. The MHD of the pool of water shall not be less than two times the length of the longest pinniped contained therein.

(e) *Polar bears.* Primary enclosures housing polar bears shall consist of a pool of water, a dry resting and social activity area, and a den. A minimum of 37.16 square meters (400 square feet) of dry resting and social activity area shall be provided for one or two polar bears, with an additional 3.72 square meters (40 square feet) of dry resting and social activity area for every polar bear more than two. The dry resting and social activity area shall be provided with a shaded area large enough to accommodate all polar bears contained in such primary enclosure at the same time. The pool of water shall be at least 2.44 meters (8 feet) by 3.66 meters (12 feet) with a minimum depth of 1.52 meters (5 feet). The den shall be at least 1.83 meters (6 feet) in width, depth and height. The interior of the den shall not be in sight of the viewing public. A separate den shall be provided for each adult female in the same primary enclosure.

(f) *Sea otters.* (1) Primary enclosures for sea otters shall consist of a pool of water and a dry resting area. The minimum horizontal dimension (MHD) of the pool of water for sea otters shall be at least twice the length of the longest sea otter contained therein as measured from the tip of its nose to the tip of its tail and not less than 0.91 meters (3 feet) deep. When more than two sea otters are housed in the same primary enclosure, additional dry resting area, as well as pool volume is required to accommodate the additional sea otters.

(2) The minimum volume of water in the pool required for a primary enclosure for sea otters shall be based on the length of each sea otter contained therein, as measured from the tip of its nose to the tip of its tail. The minimum volume of water required in the pool shall be computed using the following method. Measure all sea otters in the primary enclosure and arrange them by length in descending order from the longest sea otter to the shortest sea otter. Multiply the square of the length of the longest sea otter by 3.14 and multiply the total by 0.91 meters (3 feet). This space is satisfactory for one or two sea otters. For more than two sea otters, multiply one-half of the square of the length of the third sea otter, and each additional sea otter (more than two) in the primary enclosure, by 3.14 times 0.91 meters (3 feet).

(3) The minimum dry resting area required for more than two sea otters (exclusive of the ramp for entering and leaving the pool) shall be based on the length of each sea otter contained therein, as measured from the tip of its nose to the tip of its tail. The minimum dry resting area shall be computed using the following method: Measures all sea otters in the primary enclosure and arrange them by length in descending order from the longest sea otter to the shortest sea otter. Square the length of the longest sea otter and multiply the total by 3.14. Add one-half of the square of the length of the third sea otter, and each additional sea otter (more than two sea otters) in the primary enclosure, and multiply that sum by 3.14.

TABLE II—*Additional space required for each sea otter more than 2 in a primary enclosure*

Length of sea otter		Resting area		Pool Volume	
Meters	Feet	Square meters	Square feet	Cubic meters	Cubic feet
0.91	3.0	1.30	14.13	1.18	42.30
1.07	3.5	1.80	19.23	1.64	57.70
1.22	4.0	2.34	25.12	2.13	75.36
1.37	4.5	2.95	31.79	2.68	95.38
1.52	5.0	3.63	39.25	3.30	117.75
1.68	5.5	4.43	37.49	4.03	142.48

NOTE.—All calculations are rounded off to the nearest hundreth. A conversion factor of 1 ft equals .3048 m is used in converting the length of the sea otter from feet to meters. Due to rounding of meter figures as to the length of the sea otter, the correlation of meters to feet in subsequent calculations of additional resting area and pool volume required per sea otter, more than 2, may vary slightly from a strict feet to meter ratio.

§ 3.104 Feeding.

(a) The food for marine mammals shall be wholesome, palatable, and free from contamination, and be of sufficient quantity and nutritive value to maintain all of the marine mammals in a state of good health. The diet shall be prepared with consideration for the age, species, condition, size, and type of marine mammal being fed. Marine mammals shall be offered food at least once a day, except as directed by veterinary treatment, normal fasts, or other professionally accepted practices.

(b) Food receptacles, if used, shall be located so as to be accessible to all marine mammals in the same primary enclosure and shall be placed so as to minimize contamination of the food contained therein. Such food receptacles shall be cleaned and sanitized after each use.

(c) Food, when given to each marine mammal individually, shall be given by a competent employee who has the knowledge to assure that each marine mammal receives an adequate quantity of food to maintain the marine mammal in good health. This employee shall have the ability to recognize any deviation from a normal state of good health in each marine mammal and can adjust the food intake accordingly.

(d) Food preparation and handling shall be conducted so as to minimize bacterial or chemical contamination and to assure the wholesomeness and nutritive value of the food. Frozen fish or other frozen food shall be stored in freezers which are maintained at a temperature of at least −15° C. (5° F.) Thawing of the frozen food shall be conducted in a manner to minimize contamination and to retain nutritive value and wholesome quality. The thawed product shall be kept iced or refrigerated until feeding time which shall be within 18 hours following the removal of such food from the freezers.

§ 3.105 Water quality.

(a) *General.* Water supplied to the primary enclosure pool shall be of good quality in order to maintain the marine mammals in a state of good health. The Water quality in such pools is unacceptable if the marine mammals using such pools exhibit eye infections, poor condition of the skin or hair coat, or contaminated surface wounds.

(b) *Bacterial standards.* (1) The coliform bacteria count of the primary enclosure pool shall not exceed 1,000 MPN (most probably number) per 100 ml. of water.

(2) When the water is chemically treated, the chemicals shall be added so as not to cause harm or discomfort to the marine mammals.

(3) Water samples must be taken and tested at least weekly for coliform count and at least daily for chemical additives (chlorine and copper). Records must be kept concerning when all such samples were taken and the result thereof. All such tests shall be made available for inspection purposes.

(c) *Salinity.* Primary enclosure pools of water shall be salinized for all marine mammals which require salinized water for their good health and well-being. The salinity of the water in such pools shall be maintained within a range of 15–30 parts per thousand.

(d) *pH Standards.* The hydrogen ion concentration of the water in any primary enclosure pool shall be maintained between a pH of 7.3 and 8.5.

(e) *Filtration and water flow.*—(1) *Marine mammals, except polar bears.* The water in primary enclosure pools for marine mammals, except polar bears, shall not be stagnant. Water entering pools in the primary enclosure shall be filtered to remove visible particulate matter, or be from a source that is as clear as normal sea water. New water or recirculated water shall be added or filtered at a rate that at least equals the volume of such pool of water in every 4 hours.

(2) *Polar bears.* The water in pools for polar bears shall be completely drained and the pool cleaned as often as necessary maintain the required water quality, but at least once every two weeks.

§ 3.106 Sanitation.

(a) *Primary enclosures.* (1) Animal and food wastes in areas other than the pool of water shall be removed from the primary enclosure at least twice per week or more often as is necessary to prevent contamination of the marine mammals contained therein, to minimize disease hazards, and to reduce odors.

(2) Particulate animal and food wastes, trash or debris that enter the primary enclosure pool of water shall be removed as often as necessary to maintain the required water quality and to prevent health hazards to the marine mammals contained therein.

(3) The wall and bottom surfaces of the primary enclosure pool of water shall be cleaned as often as necessary to remove algae accumulations.

(b) *Food preparation areas and food receptacles.* Containers, such as buckets, tubs, and tanks, as well as utensils, such as knives and cutting boards, or any other equipment which has been used for holding, thawing or preparing food for marine mammals shall be cleaned and sanitized after each feeding, if the marine mammals are fed once a day, and at least daily if the marine mammals are fed more than once a day. Kitchens and other food handling and preparation areas shall be cleaned at least once daily and sanitized at least once every week. Sanitizing shall be accomplished by washing with hot water 82° C. (180° F.) and soap or detergent as in a mechanical dishwasher, or by washing all soiled surfaces with a detergent solution followed by a safe and effective disinfectant, or by cleaning all soiled surfaces with live steam.

(c) *Housekeeping.* Buildings and grounds as well as exhibit areas shall be kept clean and in good repair. Fences shall be maintained in good repair. Primary enclosures housing marine mammals shall not have any loose objects, sharp projections, and/or edges which may cause injury or trauma to the marine mammals contained therein.

(d) *Pest control.* A safe and effective program for the control of insects, ectoparasites, and avian and mammalian pests shall be established and maintained. Insecticides or other such chemical agents shall not be applied in a primary enclosure housing marine mammals except when deemed essential by an attending veterinarian.

§ 3.107 Employees.

A sufficient number of adequately trained employees shall be utilized to maintain the prescribed level of husbandry practices set forth in this subpart. Such practices shall be under the supervision of a marine mammal caretaker who has a background in marine mammal husbandry or care. Training of marine mammals shall be done by experienced trainers without physical punishment or abuse being used or inflicted upon the marine mammals.

§ 3.108 Separation.

Marine mammals housed in the same primary enclosure shall be compatible. Marine mammals shall not be housed near animals that interfere with their health or cause them discomfort.

§ 3.109 Veterinary care.

(a) Programs of disease prevention, parasite control, euthanasia, and adequate veterinary care shall be established and maintained for all marine mammals, under the supervision of an attending veterinarian.

(b) Marine mammals shall be observed daily by the person in charge of the care of the marine mammals or by someone working under his direct supervision. Sick or diseased, stressed, injured, or lame marine mammals shall be provided with adequate veterinary care or humanely destroyed, unless such action is inconsistent with the research purposes for which the marine mammal was obtained and is being held.

(c) (1) In the case of a research facility, the program of adequate veterinary care shall include the appropriate use of anesthetic, analgesic, or tranquilizing drugs, when such use would be proper in the opinion of the attending veterinarian of the research facility. The use of these three classes of drugs shall be in accordance with the currently accepted veterinary medical practice as cited in appropriate professional journals or reference guides which shall produce in the individual subject animal a high level of tranquilization, anesthesia, or analgesia consistent with the protocol or design of the experiment.

(2) It shall be incumbent upon each research facility through its Animal Care Committee and attending veterinarian to provide guidelines and consultation to research personnel with respect to the type and amount of tranquilizers, anesthetics, or analgesics recommended as being appropriate for each species of marine mammals used by that institution.

(3) The use of tranquilizers, anesthetics, or analgesics shall effectively minimize the pain and discomfort of the marine mammal while under experimentation.

(d) Newly acquired marine mammals shall be isolated from resident marine mammals until such newly acquired marine mammals can be reasonably determined to be in good health. Any communicable disease condition in a newly acquired marine mammal must be remedied before it is placed with other resident marine mammals.

(e) Any primary enclosure which has contained a marine mammal with an infectious or contagious disease shall be cleaned and sanitized in the manner prescribed in § 3.106 of the standards before any other animal is again housed in that primary enclosure.

(f) Adequately and properly designed restraining devices or primary enclosures shall be provided for isolation, medication, and treatment of all marine mammals.

§ 3.110 Handling.

(a) Handling marine mammals shall be done as expeditiously and carefully as possible in a manner that does not cause unnecessary discomfort, overheating, behavioral stress, or physical harm to the marine mammal. Care should also be exercised to avoid harm to the handlers of such marine mammals.

(b) Marine mammals, to which the public is afforded direct contact, shall only be displayed for periods of time and under conditions consistent with the animals' good health and not leading to their discomfort.

(c) During public display, all marine mammals must be handled so that there is minimal risk of harm to the public or the marine mammal, with sufficient distance allowed, or barriers placed between the marine mammal and the viewing public to assure safety to both the public and the marine mammal. Performing marine mammals shall be allowed a rest period between performances equal to the time for one performance.

§ 3.111 Consignments to carriers and intermediate handlers.

(a) Carriers and intermediate handlers shall not accept any marine mammal presented by any dealer, research facility, exhibitor, operator of an auction sale or other person or any department, agency, or instrumentality of the United States or of any State or local government for transportation, in commerce, more than 4 hours prior to the scheduled departure of the primary conveyance on which it is to be transported.

(b) Carriers and intermediate handlers shall attempt to notify the consignee at least once in every 6 hour period following the arrival of any live marine mammal at destination. The time, date, and method of notification to the consignee and the person notifying the consignee shall be noted on one of the documents accompanying the marine mammal.

§ 3.112 Primary enclosures used to transport marine mammals.

(a) Primary enclosures used to transport marine mammals, other than cetaceans and sirenians, shall be constructed in such a manner that (1) the structural strength of the enclosure shall be sufficient to contain the marine mammals and to withstand the normal rigors of transportation; (2) the interior of the enclosure shall be free from any protrusions that could be injurious to the marine mammals contained therein; (3) no part of the marine mammal shall be exposed outside of the primary enclosure which may cause injury to the animal or to persons who are nearby or who handle the primary enclosure; (4) the openings which provide access into the primary enclosure shall be secured with locking devices capable of preventing accidental opening; (5) the openings of such primary enclosure are easily accessible at all times for emergency removal of any live marine mammal contained therein; (6) there are ventilation openings located on at least both ends of the primary enclosure which are at least 8 percent of the total surface area of each such end; (7) projecting rims or other devices shall be placed on the ends and sides of any primary enclosure which has ventilation openings to provide a minimum air circulation space of 1.9 centimeters (0.75 inches) between the primary enclosure and any adjacent cargo or conveyance wall; and (8) adequate handholds or other devices for lifting shall be provided on the exterior of the container to enable the primary enclosure to be lifted without unnecessary tilting and to ensure that the persons handling the primary enclosure will not come in contact with any marine mammal contained therein.

(b) Live marine mammals transported in the same primary enclosure shall be of the same species and maintained in compatible groups. Marine mammals which have not reached puberty shall not be transported in the same primary enclosure with adult marine mammals other than their dams. Female marine mammals in season (estrus) shall not be transported in the same primary enclosure with any male marine mammals.

(c) Primary enclosures used to transport live marine mammals shall be large enough to assure that (1) each polar bear and sea otter contained therein has sufficient space to turn about freely in a stance whereby all four feet are on the floor and it can sit in an upright position and lie in a natural position; (2) each pinniped contained therein has sufficient space to lie in a natural position whereby all extended flippers shall not be in contact with any walls of the primary enclosure, and (3) each cetacean and sirenian contained therein has sufficient space for support of its body in slings, harnesses or other supporting devices (as prescribed in subparagraph (d) of this subsection) without being in contact with the supporting framework, adjacent walls, floor or ceiling, or other solid materials capable of causing contact injury to such cetacean or sirenian.

(d) Straps, slings, harnesses, or other devices for body support, used to transport cetaceans and sirenians shall be (1) designed to provide access to such mammal by attendants during transportation to administer intransit care; (2) designed to allow special padding to prevent trauma or injury at critical weight pressure points on the body of the marine mammal; and (3) designed so that straps or other restraining devices are provided to keep the animal from thrashing about and causing injury to itself or it its attendants, and so that such straps or other restraining devices are padded or otherwise protected so as not to cause injury, or be an irritant to the animal.

(e) Before being used to transport live marine mammals, primary enclosures, if previously used, shall be cleaned and sanitized in the manner prescribed in § 3.106 of the standards.

(f) Primary enclosures used to transport live marine mammals shall be clearly marked on the top and on one or more sides with the words "Wild Animal" in letters not less than 2.5 cm. (1 inch) in height, and with arrows or other markings, to indicate the correct upright position of the container .

(g) Documents accompanying the shipment shall be attached in an easily accessible manner to the outside of a primary enclosure which is part of such shipment.

§ 3.113 Primary conveyances (motor vehicle, rail, air and marine).

(a) The animal cargo space of primary conveyances used in transporting live marine mammals shall be designed and constructed to protect the health and assure the safety and comfort of the marine mammals contained therein at all times.

(b) The animal cargo space shall be constructed and maintained in a manner to prevent the ingress of engine exhaust fumes and gases.

(c) No marine mammal shall be placed in an animal cargo space that does not have a supply of air sufficient for normal breathing for each live animal contained therein, and the primary enclosures shall be positioned in the animal cargo space of the primary conveyance in such a manner that each marine mammal contained therein has access to sufficient air for normal breathing.

(d) Primary enclosures shall be positioned in the primary conveyance in such a manner that in an emergency the live marine mammals can be removed from the primary conveyance within a 5 minute time period.

(e) The interior of the animal cargo space shall be kept clean.

(f) Live marine mammals shall not be transported with any material, substance or device which may be injurious to the health and well-being of such marine mammals unless proper precaution is taken to prevent such injury.

§ 3.114 Food and water requirements.

(a) All marine mammals shall be offered potable water within 4 hours prior to being transported in commerce or offered for transportation in commerce. Marine mammals shall be watered as often as necessary and appropriate to the species involved to prevent excessive dedhydration which would jeopardize the good health and well-being of the marine mammal.

(b) Marine mammals shall not be transported for more than a period of 24 hours without being offeredd food. When an attendant is required to accompany a shipment of a marine mammal, as provided in § 3.115 of the standards, such marine mammal shall be fed during transit as often as necessary to provide for the good health and well-being of such marine mammal.

§ 3.115 Care in transit.

(a) An attendant or other employee of the shipper or receiver of any marine mammal being transported, in commerce, knowledgeable about the subject marine mammal being transported, shall acompany cetaceans, walruses, sirenians and sea otters during periods of transportation to provide for their good health and well-being, to observe such marine mammals and to determine whether they need veterinary care and to obtain any needed veterinary care as soon as possible. No cetacian, sirenian or walrus in need of veterinary care shall be transported in commerce.

(b) An attendant or other employee of the shipper or receiver of any marine mammal being transported, in commerce, shall provide for cetaceans and sirenians during periods of transport by (1) keeping the skin moist with intermittant spraying of water or protected by applying a nontoxic emollient, such as lanolin, to prevent drying of the skin; (2) assuring that the pectoral flippers shall be allowed freedom of movement at all times; (3) making adjustments in the position of such marine mammals at 30 minute intervals to prevent necrosis of the skin at weight pressure points; and (4) calming such marine mammals to avoid struggling, thrashing, and other unnecessary activity which may cause overheating or physical trauma to such marine mammals.

(c) Primary enclosers used to transport sea otters shall have sufficient water for each sea otter contained therein to immerse its body or such sea otters shall receive sufficient intermittent spraying with water to allow each such sea otter to maintain its hair coat and to prevent drying of its hair coat. No sea otter in need of veterinary care shall be transported in commerce.

(d) Live polar bears and pinnipeds, other than walruses, need not be accompanied by an attendant or other employee of the shipper or receiver, unless the period of transportation will exceed 12 hours in duration. During surface transportation, it shall be the responsibility of the driver or employee to inspect polar bears and pinnipeds, other than walruses, unaccompanied by an attendant, at least every 2 hours to determine whether they need veterinary care and to provide any needed veterinary care as soon as possible. When transported by air, live polar bears and pinnipeds, other than walruses, unac-

companied by an attendant, shall be inspected by the carrier at least every 2 hours if the animal cargo space is accessible during flight. If the animal cargo space is not accessible during flight, the air carrier shall inspect such live unattended marine mammals whenever loaded and unloaded and whenever the animal cargo space is otherwise accessible to determine whether such unattended live marine mammals need veterinary care, and the carrier shall provide any needed veterinary care as soon as possible. No polar bear or pinniped in need of veterinary care shall be transported in commerce.

(e) During the course of transportation, in commerce, live marine mammals shall not be removed from their primary enclosure unless placed in another primary enclosure or other facility conforming to the requirements provided in this subpart.

§ 3.116 Terminal facilities.

(a) *Indoor facilities.* Carriers and intermediate handlers shall provide a designated indoor animal holding area which shall not be used for general cargo, but may be located within the general cargo area. The indoor animal holding area shall be provided with fresh air either by means of windows, doors, vents, or air conditioning and shall be ventilated so as to minimize drafts, odors, and moisture condensation. The ambient temperature shall neither be allowed to fall below 7.2°C (45°F.) nor be allowed to exceed 29.5°C (85°F.) at any time. The indoor animal holding area shall be cleaned and santized in the manner prescribed in § 3.106 of the standards often enough to prevent an accumulation of debris, or excreta, minimize vermin infestation, and to prevent a disease hazard.

(b) *Outdoor facilities.* Carriers and intermediate handlers in transporting live marine mammals from the indoor animal holding area of the terminal facility to the primary conveyance and from the primary conveyance to the indoor animal holding area of the terminal facility, including loading and unloading procedures, shall provide the following:

(1) *Shelter from sunlight.* When sunlight is likely to cause overheating or discomfort, sufficient shade shall be provided to protect the live marine mammals from the direct rays of the sun.

(2) *Shelter from snow.* Transporting devices shall be covered to provide protection for live marine mammals during snow.

(3) *Shelter from cold weather.* Transporting devices shall be covered to provide protection for live marine mammals when the atmosphere temperature falls below 10° C. (50° F.)

§ 3.117 Handling.

(a) Carriers and intermediate handlers are responsible for moving live marine mammals from the indoor animal holding area of the terminal facility to the primary conveyance and from the primary conveyance to the indoor animal holding area of the terminal facility as expeditiously as possible.

(b) Care shall be exercised to avoid handling of the primary enclosure in such a manner that may cause physical or emotional trauma to the live marine mammal contained therein.

(c) Primary enclosures housing live marine mammals shall not be tossed, dropped, or needlessly tilted and shall not be stacked in a manner which may result in their falling.

§ 3.118 Ambient temperature.

The ambient temperature within the primary enclosure used to transport live marine mammals shall not exceed 35° C. (95° F.) for a period of more than 45 minutes and shall not fall below 7.2° C. (45° F.) for a period of more than 45 minutes unless the person transporting such live marine mammals knows that such live marine mammals are acclimated to such lower or higher temperatures.

All written submissions made pursuant to this notice will be made available for public inspection at the Federal Building, 6505 Belcrest Road, Room 703, Hyattsville, Maryland, during regular hours of business (8 a.m. to 4:30 p.m., Monday through Friday, except holidays) in a manner convenient to the public business (7 CFR 1.27 (b)).

Comments submitted should bear a reference to the date and page number of this issue in the FEDERAL REGISTER.

Done at Washington, D.C., this 16th day of August 1977. The Animal and Plant Health Inspection Service has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821 and OMB Circular A–107. However, an economic impact statement has been drafted and a copy of said draft statement may be obtained by writing to the Deputy Administrator, USDA, APHIS, VS, Room 703, Federal Building, 6505 Belcrest Road, Hyattsville, Md. 20782.

NORVAN L. MEYER,
Acting Deputy Administrator,
Veterinary Services.

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